ANALYSIS, PRELIMINARY DETERMINATION AND DRAFT PERMIT

FOR

TYPE A REGISTRATION CONSTRUCTION PERMIT

This review was performed by the Wisconsin Department of Natural Resources in accordance with Sections 285.60 to 285.65, Wis. Stats., and Chapter NR 406, Wis. Adm. Code. This review is for a representative source located in any area of the state.

Air Pollution Control Permit Number: RCP-A01

Analysis, Preliminary Determination and Draft Permit prepared by: /s/ Kristin Hart Date: 05/31/2006

Preliminary Determination Approved by:	Initials and Date
Construction Permit Engineer	/s/ BAP 06/01/06
Compliance Engineer	/s/ BAP 06/01/06
Stationary Source Modeling Team Leader	/s/ John Roth 06/02/06
Permits and Stationary Source Modeling Section Chief	/s/ JCH 06/02/06

Approved for Public Review and Comment: /s/ Jeffrey C. Hanson Date: 06/02/06

cc: All Regional Office Headquarters

INTRODUCTION

Stationary sources that are not specifically exempt from the requirement to obtain a construction permit under s. 285.60(5), Wis. Stats. or ch. NR 406, Wis. Adm. Code may not commence construction, reconstruction, replacement, relocation or modification unless a construction permit for the project has been issued by the Department of Natural Resource's (DNR's) Air Management Program. Owners or operators subject to the construction permit requirements that choose to obtain a registration construction permit must submit a registration construction permit application to the DNR. The application is reviewed following the applicable provisions set forth in ss. 285.60 to 285.65, Wis. Stats., and s. NR 406.17, Wis. Adm. Code.

Under ss. s. 285.60(2g) Wis. Stats., and NR 406.17, Wis. Adm. Code, DNR may, by rule, specify types of sources that may obtain registration construction permits that cover numerous sources with low actual or potential emissions.

This preliminary determination is for a Type A registration construction permit (RCP). This standardized permit will be issued for a class of sources and then, if an individual facility demonstrates that it meets the permit eligibility criteria, the facility will be "granted coverage" under the permit.

The sources covered under this registration construction permit are also required to obtain an operation permit under s. 285.60(1)(b), Wis. Stats. A Type A registration operation permit will be issued concurrently with this registration construction permit, and the Type A registration operation permit (ROP) will contain or reference all applicable requirements for the facility.

Owner/Operator:	Various owners/operators of stationary sources located in Wisconsin. Identifying information contained in permit applications.
Responsible Official:	A person responsible for the overall operation of the facility, specified in the application and meeting the definition in s. NR 400.02(80e), Wis. Adm. Code.
Permit Contact Person:	Identifying information contained in permit applications

REGISTRATION CONSTRUCTION PERMIT PROGRAM SCOPE

Type A Registration Construction Permits (RCPs) are only used to allow a facility with existing construction permits to become eligible for a Type A Registration Operation Permit (ROP). A more detailed discussion of this is contained in the **Project Description** section, below.

Type A Registration Construction Permits are available to facilities that are minor sources (natural or synthetic) under chs. NR 405, 407 and 408, Wis. Adm. Code, and that can limit the total emissions from the facility to 25% of the major source thresholds for each criteria pollutant, except lead, and for each federal hazardous air pollutant, and 0.5 tons per year for lead. There are currently about 1,735 facilities that may meet the eligibility criteria for coverage under a Type A registration operation permit. The Department estimates that approximately 200 to 400 of the 1,735 facilities may choose to be covered under a Type A registration operation permit. The Department estimates that about two thirds of these facilities, or about 135 to 270 facilities, will have existing construction permits and will need to apply for a Type A RCP in order to qualify for and be granted coverage under a Type A ROP.

This Preliminary Determination and draft Registration Construction Permit have been prepared in response to a Petition from the Wisconsin Department of Commerce under s. NR 406.18(1), Wis. Adm. Code. The petition, received on October 20, 2005, requests that the Department develop an RCP that would allow annual facility-wide emission limitations and compliance demonstration methods on a calendar year basis rather than on a monthly rolling average basis. This request was made in order to ensure consistency between the Type A RCP and Type A ROP. On November 21, 2005, the Department responded to the Petition by stating that a Registration Construction Permit may be developed to replace preexisting construction permits in instances where coverage under a ROP is to be granted.

FACILITY DESCRIPTION

Because facilities obtaining this Registration Construction Permit (RCP) will do so only in order to meet the eligibility requirements of the Registration Operation Permit (ROP), the facility must meet all the eligibility requirements of the ROP Program as well as the eligibility requirements of the RCP program. These requirements are that the facility is, or will become, a minor source under chs. NR 405, 407 and 408, Wis. Adm. Code, and is not an affected source under ch. NR 409, Wis. Adm. Code, a municipal solid waste combustion source under s. NR 500.03(151), Wis. Adm. Code, or an infectious waste combustion source.

PROJECT DESCRIPTION

Type A registration construction permits are only used to allow facilities with existing construction permits to become eligible for coverage under a Type A ROP. Most previously issued construction permits have stack or process specific limits. To remedy potentially conflicting permit terms and conditions, owners or operators of facilities that apply for coverage under the Type A RCP and ROP must first apply for revocation of past construction permits. Assuming the terms and conditions of the construction permits are supported elsewhere by rule or law or by the terms and conditions of the Type A ROP, all previously issued construction permits will be revoked and replaced with the Type A RCP. The Type A RCP (and the Type A ROP) allows the facility to emit up to 25% of the major source thresholds for criteria and federal hazardous air pollutants, excluding lead which is limited to 0.5 tons per year. Coverage under the Type A Registration Construction Permit will be granted concurrently with coverage under the Type A Registration Operation Permit. This process is necessary in order to maintain compliance with construction permitting requirements following the revocation of a facility's existing construction permits.

A Type A Registration Construction Permit grants coverage over the entire facility, as does the Type A Registration Operation Permit. The facility may consist of any number of sources, control devices, and stacks. The control devices may include any of those shown in Appendix 1 of this Preliminary Determination.

A facility covered under a Type A RCP may not have any operations subject to a Maximum Achievable Control Technology Standard (MACT) or New Source Performance Standard (NSPS), other than those listed in Appendix 3 of this Preliminary Determination.

The control devices at the facility to be covered under this permit must meet or exceed the control device efficiencies in Appendix 1 of this Preliminary Determination.

EMISSION CALCULATIONS

Air pollution emissions from a facility that proposes to be covered by a Type A RCP will be calculated using the emission calculation methodology in Appendix 2 of this Preliminary Determination. For purposes of the emission calculations, when a facility reduces emissions using a control device, the facility will be required to use the air pollution control efficiencies contained in Appendix 1 of this Preliminary Determination or the control efficiency of a control device that is specifically required in an applicable air pollution requirement, if it is higher. If a control device does not meet the control efficiency requirements listed in Appendix 1, then it may not be considered in the emission calculations.

APPLICABLE REQUIREMENTS

The Type A RCP contains an annual (calendar year) cap on the facility's emissions. In addition, the permit contains compliance demonstration methods and monitoring and recordkeeping requirements necessary to demonstrate compliance with the emission limits. Although registration permits do not specifically lay out all applicable requirements, a facility covered under a Registration Construction Permit must meet the applicable requirements in ch. 285, Wis. Stats., chs. NR 400 to 499, Wis. Adm. Code, and applicable requirements under the federal Clean Air Act. The Department, along with the Department of Commerce's Small Business Clean Air Assistance Program (SBCAAP), has developed, and continues to develop, guidance to assist facilities covered under the Type A RCP and ROP in determining their applicable requirements.

Process lines covered under this RCP that emit organic compounds may be subject to the requirements of s. NR 424.03, Wis. Adm. Code. If so, the facility is required to control overall organic compound emissions by 85%, apply Latest Available Control Techniques (LACT) and operating practices demonstrating best current technology, or elect to meet the applicable Reasonably Available Control Technology (RACT) limitations for the process line. During the development of this permit, it was determined that, if the organic compound emissions from a process line were limited to 10 tons per year, 85% control is considered to be technologically infeasible, and facilities could choose to apply LACT. Cost may be considered when determining whether or not a control technology is considered to be technologically infeasible. EPA's Air Compliance Advisor program was used to estimate the control cost for 10 tons per year of organic compounds. Table 1, below, contains the costs calculated for control of two common organic compounds, methanol and toluene. As can be seen in Table 1, the least expensive control device has a cost of control over $8,000 per ton. This is considered to be technologically infeasible for this analysis.

Table 1

Control Device	Cost of control for methanol ($/ton)	Cost of control for toluene ($/ton)
Water absorption	$42,245	$8,113
2 bed carbon adsorption	$29,459	$9,173
3 bed carbon adsorption	$29,803	$9,231
Regenerative thermal oxidizer	$8,819	$16,260
Fixed bed catalytic incinerator	$9,636	$20,317
Fluidized bed catalytic incinerator	$9,917	$21,371
Recuperative thermal incinerator	$14,092	$28,186
Self support flare	$128,769	$581,463
Multi-stage condenser	$41,731	-

In order to be eligible for the LACT, the owner or operator must limit each process line that will meet the LACT to 10 TPY. This is an elective limitation necessary to ensure that 85% control is technologically infeasible but is not considered part of the actual LACT requirements. LACT is then determined to be, for spray coating operations, the use of spray coating technologies with high transfer efficiencies and burner adjustments to ensure complete combustion for hot mix asphalt plants (see below for the specifics of the LACT determination)[1]. Process lines that are not spray coating lines or asphalt plants are subject only to the 10 TPY emission limitation for each process line electing LACT. The RCP allows a facility to meet s. NR 424.03, Wis. Adm. Code, by applying LACT to the process line located at a facility covered under this permit. For each process line meeting LACT, the following emission limitations and LACT requirements shall be met at all times:

1. DEPARTMENT APPROVED LACT FOR ORGANIC COMPOUND EMISSIONS FROM PROCESS LINES

With the exception of Hot Mix Asphalt Plants, each process line applying LACT must meet the following requirements:

a. Emission Limitation:

i. Any process line constructed or modified prior to August 1, 1979 may not emit more than 10 tons of photochemically reactive organic compound emissions per calendar year

ii. Emission Limitation: Any process line constructed or modified on or after to August 1, 1979 may not emit more than 10 tons of volatile organic compound emissions per calendar year[2];

b. LACT:

i. For a spray coating operation has been determined to be high transfer efficiency application techniques including low-pressure spray methods such as high volume low pressure (HVLP), electrostatic spray, or dip coating;

c. Compliance Demonstration: Spray coating operations meeting the LACT limit shall retain plans or technical drawings that show the spray coating technique being used.

d. Recordkeeping Requirements: By March 1 of each year, the owner or operator shall calculate the amount of regulated volatile organic compounds emitted by the process line for the previous calendar year.

2. DEPARTMENT APPROVED LACT FOR HOT MIX ASPHALT PLANTS

1 Also included in the permit is a LACT specifically for hot mix asphalt plants. Process lines that are hot mix asphalt plants do not need to limit organic compound emissions to 10 TPY because the study on the feasibility of 85% control for that industry was based on organic compound emissions over 25 TPY. The 25 TPY emission cap in the RCP will ensure that 85% control is infeasible for the asphalt paving industry.

[2] These limits do not excuse the facility from having to meet the facility-wide VOC limits in condition A.1.

a. Each year, within 30 days of the onset of hot mix production, and after that point, once within 20,000 tons of every additional 100,000 tons of hot mix production, a burner check shall be performed to determine the optimum levels[3] of the following parameters:
   (1) Carbon monoxide (CO) and oxygen (O_2) levels in the drum, using a portable combustion analyzer, corresponding to burner operation in the most efficient manner, where the test port is located in the drum between the burner and the hot mix asphalt line, at the knock-out box, or in the duct-work after the drum;
   (2) Draft pressure levels at the front of the drum to assure the most efficient burner operation, measured by means of a pressure gauge (i.e., photohelic gauge) or other type of controller that controls a variable damper located in front of or behind the induced draft fan;
   (3) The following liquid fuel viscosity and gaseous fuel pressure and fuel feed conditions:
      (a) Liquid fuel temperature for each liquid fuel;
      (b) Pump pressure for each liquid fuel; and
      (c) Gaseous fuel pressure.

b. The hot mix asphalt plant shall undergo a minimum of one burner check annually unless a written waiver is obtained from DNR.

c. The owner or operator shall perform weekly inspections to ensure that the plant drum has tightly sealing drum end seals and duct work which keeps air in-leakage to a minimum.

d. The owner or operator shall maintain records of the optimum levels of the parameters in Condition 2.a.

e. The owner or operator shall maintain records of the burner checks and weekly inspections required under Conditions 2.b. and c. These records shall include the date of each action.

AIR QUALITY REVIEW

Since a Type A RCP will only be used to cover facilities that have previously been issued traditional permits and that will now be covered by the Type A Registration Operation Permit, the Department will rely on air quality reviews done for previously issued construction permits or for the Type A Registration Construction Permit and Registration Operation Permit to ensure protection of all air quality standards.

Air quality review during revocation process: As discussed in the Registration Construction Permit Scope and the Project Description Sections above, all previously issued individual construction and operation permits issued to a facility must be revoked before that facility can be covered by Registration Construction and Operation Permits. The Department will review each facility's revocation request to ensure that, after revocation of the individual permits, the facility can still meet the ambient air quality standards. This will be done by reviewing the facility's previous modeling analyses. If the pre-revocation review shows that a facility may not be able to meet air quality standards without the source specific conditions in its individual permits, the Department will inform the facility of its findings and will NOT proceed with the revocation process. Note that the owner or operator may still evaluate its facility stacks and emissions, make changes and apply again for permit revocation and coverage under the RCP and the ROP. Such changes could include changes to stacks that would increase dispersion of air pollution or the addition of control equipment to reduce emission rates.

[3] The levels determined in this condition must follow the requirements as described in s. NR 439.055(3), Wis. Adm. Code. In this context, the optimum levels and most efficient burner operation is intended to provide a combustion environment which reduces or minimizes the emissions of organic compounds (i.e. products of incomplete combustion). Carbon monoxide (CO) and oxygen (O_2) measurements provided a surrogate for the emissions of organic compounds. Reductions of the CO concentration without excessive oxygen dilution (minimum CO emissions) usually corresponds to efficient fuel utilization and a reduction in the emissions of organic compounds.

Air Quality review as part of application for coverage under the RCP and ROP: Once it is determined that a facility's previously issued permits can be revoked without harming air quality, the permittee may proceed with application for coverage under the Type A RCP and ROP. Prior to granting coverage under the RCP and ROP, the Department will perform a facility wide air quality assessment. Then, once coverage is granted, any changes made at the facility, while exempt from the need to obtain a construction permit, must be evaluated to ascertain whether or not the ambient air quality standards are protected after the change.

Air quality review for the Type A ROP: Note that no facility will be covered under the RCP-A01 unless it also covered under the ROP-A01. The following is excerpted from the Air Quality Review that was prepared as an addendum to the Preliminary Determination for the Type A ROP and describes how air quality standards will be protected by facilities covered under this permit.

Air quality modeling experience was used to determine the requirements necessary to protect ambient air quality standards. Based upon this experience, facility emissions and stack characteristics that commonly lead to modeled air quality standard exceedances were identified. The facilities that will potentially be covered by the Registration Operation Permit are small emitters of air pollution and will all have annual emissions limited by the ROP to less than 25% of major source thresholds.

But air quality modeling experience tells us that the annual emission caps alone will not assure protection of ambient air quality standards for all pollutants, all the time. Stack configurations must also be considered. Modeling experience has shown that vertical unobstructed stacks result in lower modeled ambient air concentrations than non-vertical and/or obstructed stacks. Stack heights that are as tall as or taller than the height of a nearby building are predicted by modeling experience to create ambient air concentrations at lower levels than the predicted concentration from stacks that are shorter than nearby buildings.4 For the purpose of this discussion, a building is considered to influence the dispersion of emissions from a stack if the stack exists within a circle around the building, the radius of which is 5 times the height of the building.

Based on this modeling experience, the draft Registration Operation Permit requires that a facility's stacks be vertical, unobstructed and taller than nearby buildings. These stack requirements, coupled with the annual emission caps, will provide for the protection of all criteria air pollutant ambient air quality standards, with the possible exception of the 24 hour particulate matter standard. (See discussion under Particulate Matter below for more information on this issue.)

Because these requirements are quite conservative, s. NR 407.105(2)(a)4., Wis. Adm. Code, allows facilities that do not meet the permit's stack requirements to perform air quality dispersion modeling to demonstrate that ambient air quality standards are protected even if some stacks at the facility are not vertical, unobstructed, or taller than nearby buildings. The facility is required to submit the modeling results with the application for coverage under the ROP to inform the Department and the public of the predicted air quality impact.

In addition, as long as the stacks at the facility do not meet the stack requirements of the ROP, the facility will be required to perform air quality modeling to demonstrate compliance with all relevant air quality standards prior to making any changes that would increase emissions or ambient air impacts. If the facility chose to model in lieu of meeting the ROP stack requirements, then the only way to demonstrate

4 The predicted concentration from a stack that is 90% the height of a nearby building is typically 7% greater than from a stack that is as tall as a nearby building. The predicted concentration from a stack that is 50% the height of a nearby building is typically 30% greater than from a stack that is as tall as a nearby building.

that air quality will continue to be protected if changes are made to stack parameters or emission rates is through subsequent air quality modeling analyses.

24 Hour Particulate Matter Standards: Modeling experience has shown that the 24 hour particulate matter ambient air quality standards may not always be protected by the annual emission cap and the stack requirements described above. For that reason, the Department has included additional requirements in the Registration Operation Permit Application process and additional requirements in the draft Registration Operation Permit for facilities that emit over a certain amount of particulate matter (PM).

For the purposes of this updated air quality review and the draft permit, particulate matter emissions of concern are considered to be the following:

- Annual maximum controlled emissions of particulate matter from the entire facility (excluding PM from emission units listed in Attachment 1) equal to or greater than 5 tons per year and

- Emissions of particulate matter resulting in a modeled ambient air impact equal to or greater than the thresholds listed on the map in Attachment 2. (Note that thresholds may change over time. Attachment 2 is current as of April l, 2006).

Annual maximum controlled emissions of particulate matter are the maximum hourly emissions of particulate matter calculated using the control efficiencies listed in the Registration Operation Permit, if control equipment is used. These maximum hourly emissions are multiplied by 8,760 hours per year for all emissions sources (except emission units listed in Attachment 1) emitting particulate matter at the facility. If the emission unit's physical design makes it impossible to operate 8,760 hours per year, the annual maximum controlled emissions may be calculated taking these physical limitations into account.

The modeling thresholds shown on the map in Attachment 2 were developed by the Department's air dispersion modeling team. These modeling threshold values were established at levels such that a facility could make a physical change and it would be reasonable to assume that the ambient PM standards would be maintained. The threshold levels consider background concentrations, as well as the facility emissions, and allow for a potential combined air quality impact of about 75% of the particulate matter air quality standards. The Modeling Threshold Map will be updated by the Department periodically.

Additional Application Procedures to Determine Eligibility for Facilities Emitting Particulate Matter
The Department will perform an air dispersion modeling analysis to ensure particulate matter ambient air quality standards are protected prior to granting coverage under a Registration Operation Permit for each facility that has annual maximum controlled emissions of particulate matter of 5 tons per year or more and meets the stack requirements of NR 407.105(2)(a)2. and 3. The Department will complete this assessment during the 15 day review period allowed by law. In the alternative, the facility may conduct the modeling analysis itself and submit the results with its application.

Additional Permit Requirements for Facilities Emitting Particulate Matter
Under the ROP, a facility will be required to conduct modeling prior to making future changes that may increase emissions or the ambient impact of PM if the facility emits or will emit 5 tons or more of particulate matter per year and if the ambient air impact of the maximum controlled particulate matter emission rate, as modeled to determine eligibility for the ROP, was equal at or greater than 30 micrograms per cubic meter in certain counties and 60 micrograms per cubic meter in other counties, as shown on the map in Attachment 2. Changes that would require modeling may include increases to the maximum controlled emission rate of particulate matter, or stack changes such as movement or alteration that would decrease dispersion of particulate matter. If the facility's PM emissions had been less than 5

tons/year and prior modeling had not been done, the facility will need to model before making physical changes that would result in annual maximum controlled PM emissions of 5 tons or more.

The Department believes that as long as a facility emits less than 5 tons of particulate matter per year or has emissions resulting in ambient impacts below the modeling thresholds, the facility will continue to meet the PM ambient air quality standards provided that their stacks are vertical, unobstructed and taller than nearby buildings. Such facilities will not be required to perform further air dispersion modeling before making changes to their emission units.

As noted before, all facilities, regardless of the type or amounts of pollutants emitted, that demonstrate eligibility for this Registration Operation Permit through air dispersion modeling rather than through meeting the requirements to have vertical, unobstructed stacks that are taller than nearby buildings, will be required to perform air dispersion modeling to demonstrate compliance with all relevant air quality standards prior to making changes that would increase the ambient air impacts.

CH NR 445, WIS. ADM. CODE (WISCONSIN'S AIR TOXICS RULE)

A facility covered under this Registration Construction Permit is required to be in compliance with ch. NR 445, Wis. Adm. Code. The facility may choose to demonstrate compliance with ch. NR 445, Wis. Adm. Code, using any of the methods described in that chapter.

The operations covered under this Registration Construction Permit may not be subject to Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) under ch. NR 445, Wis. Adm. Code.

CONTROL TECHNOLOGY REVIEW

Air pollution emission control technologies that are utilized at a facility that has applied for coverage under a Type A RCP may only include those listed in Appendix 1 of this Preliminary Determination or those specifically required by an applicable air pollution regulation. Control devices are required to meet the minimum control efficiencies listed in Appendix 1 of this Preliminary Determination or the control efficiency specified by the applicable air pollution requirement, whichever is higher. If a control device does not meet the minimum control efficiency requirements listed in Appendix 1, then it cannot be used to demonstrate compliance with the emission cap in A.1. of the draft RCP. The owner or operator of the facility is required to operate, monitor, and maintain the control devices to ensure proper emission control.

FACILITY EMISSIONS

As stated above, the only facilities that can obtain coverage under the Type A Registration Construction Permit are those that are also applying for coverage under a Type A Registration Operation Permit. Therefore, emissions from the entire facility may not exceed the Type A Registration Operation Permit thresholds. These thresholds are as follows: annual emissions of each air contaminant, except lead, emitted by the facility may not exceed 25% of any major source threshold listed in s. NR 407.02(4), Wis. Adm. Code, on a calendar year basis. If a control device is used to meet this limit, the control device efficiencies listed Appendix 1 must be used to calculate emissions or if higher, the control efficiency of a control device specifically required by an applicable requirement. Actual annual emissions of lead from

the facility may never exceed 0.5 tons per year on a calendar year basis. See the note and Table 2 below for the annual emission limits in tons per year calculated based on 25% of the major source thresholds.

Note: Major source thresholds vary according to the attainment status of the area in which the facility is located. Therefore, if there is a change in the attainment status of the area where the facility is located for any pollutant, then the annual facility-wide emission limits will also change to 25% of the new major source threshold for that pollutant. Table 2 is for informational purposes only. These ton per year numbers will change if there is a change in the definition of major source threshold or if new nonattainment areas are created or if the attainment area status of an area changes. These thresholds were current as of May 1, 2006.

Table 2. Registration Construction Permit Annual Emission Limits

Pollutant	Emission Limits
Particulate Matter Emissions	• 25 ton/year for particulate matter attainment areas • 17.5 ton/year for serious PM_{10} nonattainment areas
Volatile Organic Compounds (VOCs)	• 25 ton/year for ozone attainment and basic, marginal or moderate ozone nonattainment areas • 12.5 ton/year for serious ozone nonattainment or areas within ozone transport regions except for any severe or extreme nonattainment area for ozone • 6.25 ton/year for severe ozone nonattainment areas
Nitrogen Oxides	• 25 ton/year for ozone attainment and basic, marginal or moderate ozone nonattainment areas • 12.5 ton/year for serious ozone nonattainment or areas within ozone transport regions except for any severe or extreme nonattainment area for ozone • 6.25 ton/year for severe ozone nonattainment areas • 2.5 ton/year for extreme ozone nonattainment areas
Sulfur Dioxide	• 25 ton/year
Carbon Monoxide	• 25 ton/year for attainment and moderate carbon monoxide nonattainment areas
Lead	• 0.5 tons/year
Section 112(b) Hazardous Air Pollutants (HAPs)5	• 2.5 ton/year for any *single* pollutant • 6.25 ton/year for a *combination* of all pollutants

FACILITY AND PROJECT CLASSIFICATION

1. Existing Facility Status:

Prior to the granting of coverage under a Type A RCP, a facility applying for such a permit could be either a major or a minor source under the PSD, Nonattainment New Source Review (NAA) and Title V programs. However, in order to be eligible for coverage under a Type A RCP, the source cannot have undergone a PSD/NAA/NSR permitting action in which BACT/LAER was applied, be subject to a National Emissions Standard for Hazardous Air Pollutants that requires the application of Maximum

5 See Attachment 1 of the draft RCP for a list of section 112(b) HAPs.

Achievable Control Technology other than the ones listed in Appendix 3 of this Preliminary Determination document, nor be subject to a New Source Performance Standard other than the ones listed in Appendix 3 of this Preliminary Determination document.

2. Project Status:

This project is a minor modification.

3. Facility Status after Completion of Project:

A facility that is granted coverage under a Type A RCP will be a minor source under chs. NR 405, 407 and 408, Wis. Adm. Code, because emissions either cannot theoretically exceed, or are limited to, less than the major source thresholds of 100 tons per year for criteria pollutants, 10 tons per year for individual s. 112(b) federal hazardous air pollutants and 25 tons per year for any combination of s. 112(b) federal hazardous air pollutants.

ENVIRONMENTAL ANALYSIS

The proposed project is a Type III action under Chapter NR 150, Wis. Adm. Code, because there is a potential increase in hazardous emissions and the potential to emit of the project is less than 100 TPY for each criteria pollutant.

A news release is required for this proposal and is included in the public comment notice. It is proposed that an environmental assessment not be completed.

COMPLIANCE DEMONSTRATION MONITORING METHODS

The facility must demonstrate compliance with the applicable emission limitations as required in the Registration Construction Permit, ch. 285, Wis. Stats., chs. NR 400 - 499, Wis. Adm. Code. A Type A Registration Operation Permit will be issued to cover operation of all of the sources included in this RCP.

CRITERIA FOR PERMIT APPROVAL

Section 285.63, Wis. Stats., sets forth the specific language for permit approval criteria. DNR finds that:

1. The source will meet emission limitations.
2. The source will not cause or exacerbate a violation of an air quality standard or ambient air increment.
3. The source is operating or seeks to operate under an emission reduction option. Not Applicable.
4. The source will not preclude the construction or operation of another source for which an air pollution control permit application has been received.

DETERMINATION

The Department has determined that facilities that meet the permit eligibility criteria may be covered under the Registration Construction Permit provided they can comply with the Draft Registration Construction Permit and all other applicable requirements.

PERMIT FEE

Section 285.69(1)(a)1., Wis. Stats., states that the Department may not impose a fee on an owner or operator of an entire facility for which an operation permit is required under state law but not under the federal Clean Air Act if the entire facility is covered by a registration permit. In addition, s. NR 410.03(1)(a)7., Wis. Adm. Code, requires that Part 70 sources granted coverage under a registration construction permit pay a fee of $1,100. Since Part 70 sources are not eligible for this permit, no fee is applicable.

APPENDIX 1
AIR POLLUTION CONTROL REQUIREMENTS AND EFFICIENCIES

Control Efficiencies

Control Device	Control Efficiency (Total Enclosure)6			Control Efficiency (Hood)		
	PM	PM_{10} and PHAP	VOC and VHAP	PM	PM_{10} and PHAP	VOC and VHAP
Low efficiency cyclone	40%	20%	-	32%	16%	-
Medium efficiency cyclone	60%	40%	-	48%	32%	-
High efficiency cyclone	80%	60%	-	64%	48%	-
Multiple cyclone w/out flyash reinjection	80%	60%	-	64%	48%	-
Multiple cyclone with flyash reinjection	50%	38%	-	40%	30%	-
Wet cyclone separator	50%	38%	-	40%	30%	-
HEPA and other wall filters (including paint overspray filters)	95%	95%	-	76%	76%	-
Fabric filters (e.g., baghouse, cartridge collectors)	98%	92%	-	78%	73%	-
Spray towers	80%	80%	70%	64%	64%	56%
Venturi scrubber	90%	85%	-	72%	68%	-
Condensation scrubber (packed bed)	90%	90%	-	72%	72%	-
Impingement plate scrubber	75%	75%	-	60%	60%	-
Electrostatic precipitators	95%	95%	-	76%	76%	-
Thermal oxidizers	-	-	95%	-	-	76%
Catalytic oxidizers	-	-	95%	-	-	76%
Condenser	-	-	70%	-	-	56%
Flaring or direct combustor	-	-	98%	-	-	78%
Biofilter	-	-	80%	-	-	64%

Monitoring and Recordkeeping Requirements

Control Device	Parameter(s) to Monitor	Minimum Monitoring and Recordkeeping Frequency7
Centrifugal Collector (cyclone)	Pressure drop	Once every 8 hours of operation
Multiple cyclone w/out flyash reinjection	Pressure drop	Once every 8 hours of operation
Multiple cyclone with flyash reinjection	Pressure drop	Once every 8 hours of operation
Wet cyclone separator	Pressure drop and water flow rate	Once every 8 hours of operation
HEPA and other wall filters (including paint overspray filters)	Pressure drop **OR** Condition of filter including alignment, saturation and tears/holes	Once every 8 hours of operation Once per day of operation

6 VHAP = Volatile hazardous air pollutant, PHAP = Particulate hazardous air pollutant.
7 Where this column indicates a monitoring and recordkeeping frequency of "once every 8 hours of operation", the permittee shall monitor and record the appropriate parameter(s) once per day of operation if it results in a greater number of measurements than once every 8 hours of operation.

Control Device	Parameter(s) to Monitor	Minimum Monitoring and Recordkeeping Frequency7
Fabric filters (e.g., baghouse, cartridge collectors)	Pressure drop	Once every 8 hours of operation
Spray towers	Pressure drop and water flow rate	Once every 8 hours of operation
Venturi scrubber	Pressure drop and scrubber liquor flow rate	Once every 8 hours of operation
Condensation scrubber (packed bed)	Pressure drop and scrubber liquor flow rate	Once every 8 hours of operation
Impingement plate scrubber	Pressure drop and scrubber liquor flow rate	Once every 8 hours of operation
Electrostatic precipitators	Primary and secondary voltage, in volts; primary and secondary current, in amps; and sparking rate, in sparks per minute	Once every 8 hours of operation
Thermal oxidizers	Temperature in primary chamber and afterburner	Once every 15 minutes of operation
Catalytic oxidizers	Temperature in primary chamber and afterburner **AND** Catalyst bed reactivity	Once every 15 minutes of operation As per manufacturer specification
Condenser	Condenser outlet gas temperature	Once every 8 hours of operation
Flaring or direct combustor	Temperature indicating presence of flame	Continuous hardcopy readout **OR** hardcopy readout of instances of no flame
Biofilter	Bed temperature, moisture content	Once per day of operation

APPENDIX 2
EMISSION CALCULATION METHODOLOGY

SHOULD THIS BE ADDED TO THE ROP PD AS WELL?

1. For the purposes of the RCP, the facility calculates actual emissions for each emissions unit, except that similar emissions units may be aggregated for emission calculation purposes. The facility is required to use the calculation method in par. b. instead of the calculation method in par. a. if the data described in par. b are available for the facility. The alternative methods described in pars. c. and d. may also be used. Fugitive dust emissions are included in the calculations under this section only if the facility is in a category listed in ss. NR 407.02(4)(b)1. to 27., Wis. Adm. Code. The facility is required to report to the Air Emissions Inventory (AEI) each year.

a. Emission calculation based on the source's actual operating parameters, as shown in the following equation:

E = OP x UEF x [1-CE], where

E = Actual emissions, in tons per year
OP = Operating parameter as required by the uncontrolled emission factor (e.g., hours of operation or unit produced).
UEF = Uncontrolled emission factor (e.g., pounds of pollutant per hour of operation or units produced).
CE = Control efficiency (percent expressed as a decimal fraction of 1.0) as listed in Appendix 1

b. Emission factors from emission tests may be used for the calculation of actual emissions, provided that the emission tests were approved by the Department. If the owner or operator uses an emission factor from an emission test, the calculation method in item a. shall be used.

c. A material balance may used to calculate actual VOC emissions. If this method is used, the owner or operator shall calculate actual VOC emissions using the following equation:

E = (a - b - c) x (1 - d), where

a = The amount of VOC entering the process. A signed statement from the supplier or the material safety data sheet stating the maximum amount of VOC in any material that was used in the process must be used.
b = The amount of VOC incorporated permanently into the product. This includes VOCs chemically transformed in production. It does not include latent VOC remaining in the product that will at some time be released to the atmosphere. An explanation of this calculation should accompany the material balance.
c = The amount of VOC, if any, leaving the process as waste, or otherwise not incorporated into the product and not emitted to the air.
d = The control efficiency (percent expressed as a decimal fraction of 1.0), as listed in Appendix 1 (or alternate control efficiency determined a Department approved emission test).

d. The owner or operator may determine sulfur dioxide actual emissions by measuring the sulfur content of the fuel and assuming that all of the sulfur in the fuel is oxidized to sulfur dioxide. The sulfur content of each batch of fuel received must be measured by an independent laboratory using ASTM methods or verified by vendor certification. The sulfur dioxide actual emissions shall be determined for each batch of fuel received by using the following equation:

SO_2 = %S/100 x F/2,000 x 2, where

SO_2 = Sulfur dioxide emissions from a batch of fuel, in tons.
%S = Weight percent sulfur in the fuel being burned.
F = Amount of fuel burned, in pounds.
2,000 = Pounds per ton.
2 or 64/32 = Pounds of sulfur dioxide per pound of sulfur in one pound-mole.

The total sulfur dioxide emissions for the year shall be the sum total of the individual batch totals.

APPENDIX 3
ALLOWABLE NEW SOURCE PERFORMANCE STANDARDS and MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY STANDARDS

1. Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (s. NR 440.207, Wis. Adm. Code).

2. Standards of Performance for Hot Mix Asphalt Facilities (s. NR 440.25, Wis. Adm. Code).

3. Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction or Modification Commenced After June 11, 1973 and Prior to May 19, 1978 (s. NR 440.27, Wis. Adm. Code).

4. Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction or Modification Commenced After May 18, 1978 and Prior to July 23, 1984 (s. NR 440.28, Wis. Adm. Code).

5. Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After July 23, 1984 (s. NR 440.285, Wis. Adm. Code).

6. Standards of Performance for Grain Elevators (s. NR 440.47, Wis. Adm. Code).

7. Standards of Performance for Surface Coating of Metal Furniture (s. NR 440.48, Wis. Adm. Code).

8. Standards of Performance for Industrial Surface Coating: Large Appliances (s. NR 440.57, Wis. Adm. Code).

9. Standards of Performance for Petroleum Dry Cleaners (s. NR 440.68, Wis. Adm. Code).

10. Standards of Performance for Industrial Surface Coating of Plastic Parts for Business Machines (s. NR 440.72, Wis. Adm. Code).

11. Any New Source Performance Standard or Maximum Achievable Control Technology Standard, where the facility or source is only subject to the recordkeeping or notification requirements of that standard.

ATTACHMENT 1
EMISSION UNITS NOT SUBJECT TO REGISTRATION OPERATION PERMIT REQUIREMENTS

1. Convenience space heating units with heat input capacity of less than 5 million Btu per hour that burn gaseous fuels, liquid fuels or wood

2. Convenience water heating

3. Maintenance of grounds, equipment and buildings, including lawn care, pest control, grinding, cutting, welding, painting, woodworking, general repairs and cleaning, but not including use of organic compounds as clean−up solvents

4. Boiler, turbine, generator, heating and air conditioning maintenance

5. Pollution control equipment maintenance

6. Internal combustion engines used for warehousing and material transport, forklifts and courier vehicles, front end loaders, graders and trucks, carts and maintenance trucks

7. Fire control equipment

8. Janitorial activities

9. Office activities

10. Fuel oil storage tanks with a capacity of 10,000 gallons or less

11. Stockpiled contaminated soils

12. Demineralization and oxygen scavenging of water for boilers.

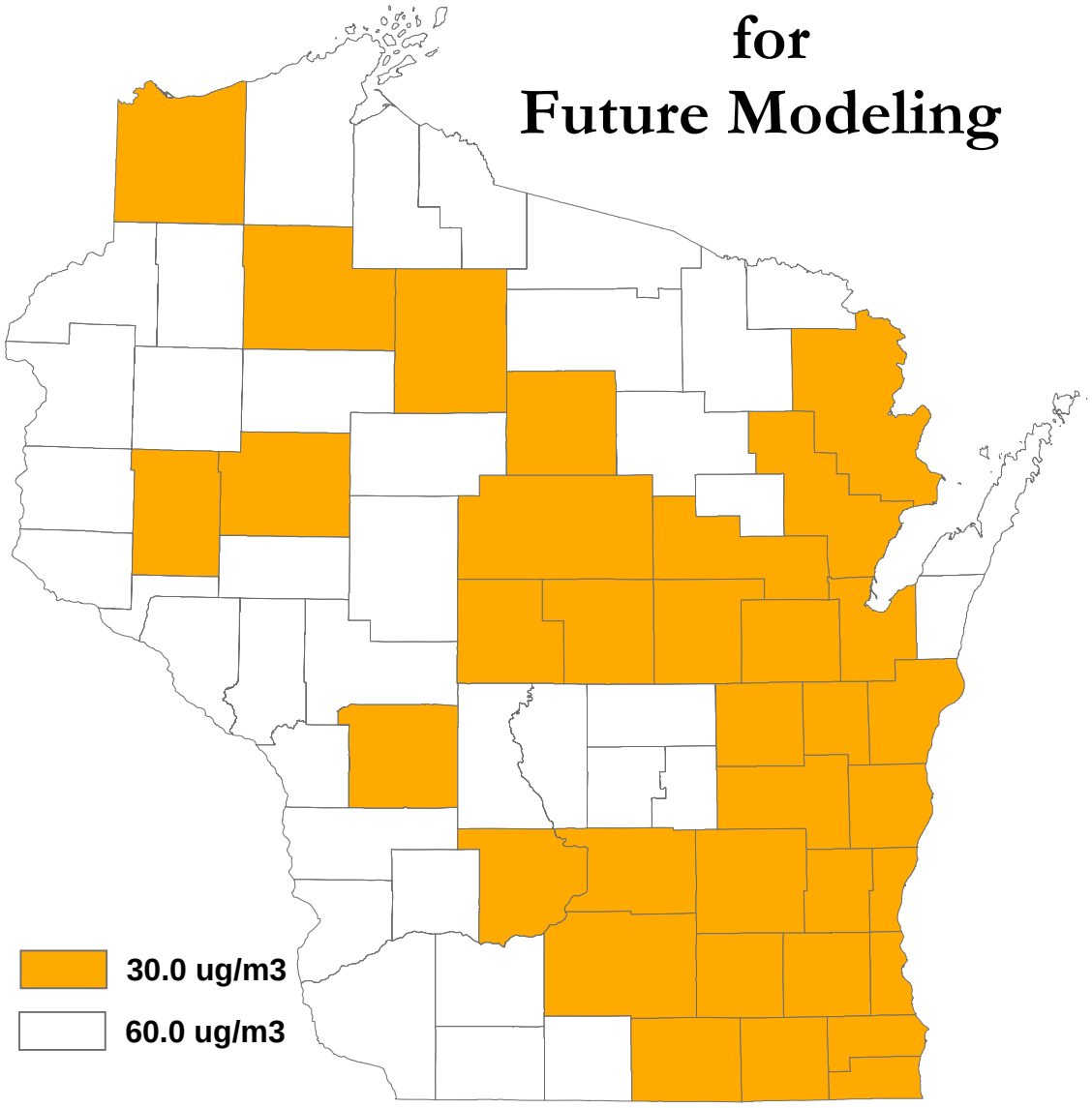
13. Purging of natural gas lines.

14. Any emission unit, operation, or activity that has, for each air contaminant, maximum controlled emissions that are less than the level specified in Table 3 of ch. NR 407, Wis. Adm. Code. Multiple emissions units, operations, or activities that perform identical or similar functions shall be combined for the purposes of this determination.

15. If the maximum controlled emissions of any air contaminants listed in Table 3 of ch. NR 407, Wis. Adm. Code, from all emission units, operations or activities at a facility are less than 5 times the level specified in Table 3, for those air contaminants, any emission unit operation or activity that emits only those air contaminants.

Attachment 2

ROP Threshold for Future Modeling



Updated 04/01/2006

WISCONSIN DEPT. OF NATURAL RESOURCES